

Docket No. - MOL 0063 PA  
Title - SCANNING PROBE MICROSCOPE AND  
SOLENOID DRIVEN CANTILEVER ASSEMBLY  
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### ABSTRACT OF THE DISCLOSURE

A combined scanning probe and optical microscope is provided. The microscope comprises a sample stage, a scanning probe microscope, an optical microscope, a microscope coupling, and a sample stage support. The microscope coupling, the sample stage, and the sample stage support are arranged to inhibit relative motion between the sample stage and the scanning probe microscope in the event of simultaneous low frequency vibrations in the optical microscope and high frequency vibrations in the scanning probe microscope. In accordance with other embodiments of the present invention scanning probe microscopes are provided comprising a slide-mounted stage assembly, a solenoid unit positioned above the cantilever unit of the probe, and a specialized solenoid driven cantilever assembly.